HAM-LET STANDARD PERFORMANCE

UCV®

2LE - COMPACT MODEL
2LM - METERING FLOW
MDDV - FLOW CONTROL WITH MANUAL SHUT-OFF VALVE
2LD - STANDARD FLOW
HM - LEGACY SERIES
HMC - COMPACT INLINE

2LE SERIES
COMPACT MODEL

METAL DIAPHRAGM VALVES

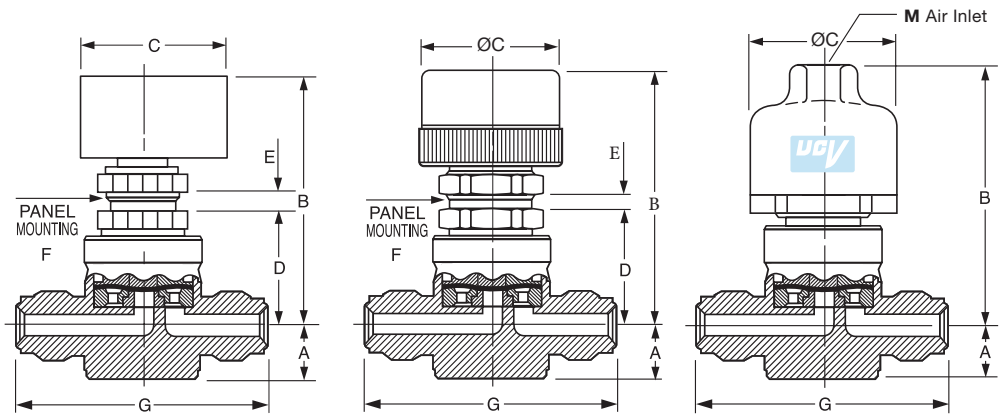
Compact models from the Ultra Clean Valve series are made according to UHP specifications
These models come with end connections in the standard 1/4' and are for applications where a minimum footprint is required.

- Compact designs for minimum footprint
- Electropolished surfaces
- Forged body

For details, please contact one of our field representatives.

STANDARD DIMENSIONS

Part Number/ep	Size	End Connection	A	B	C	D	E	F	G	I	J	K	M
	inch		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	inch
2LES4Q-W	1/4	Extended Butt Weld	11	52	30	24.5	4	17	47	-	-	17	-
2LEA4R-BV	1/4	Male HTC®	11	54	30	24.5	4	17		26	45	17	
2LES4C-FV	1/4	Swivel Female HTC	11	54	32	-	-	-	66	-	-	17	1/8



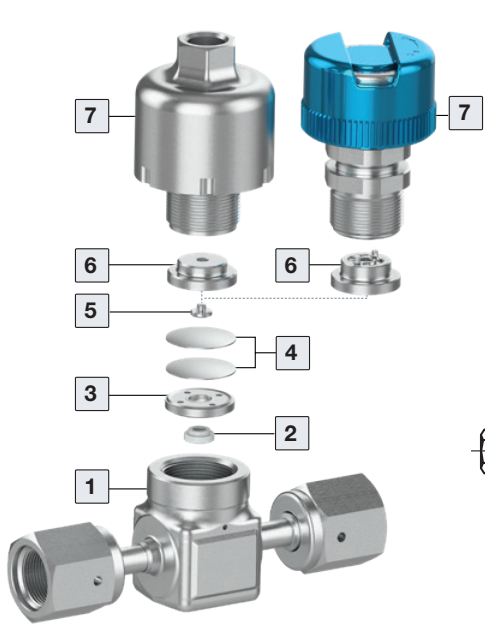
SPECIFICATIONS

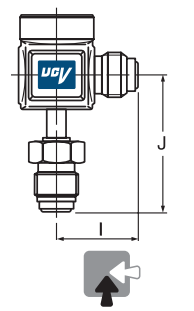
Size	Design Pressure	Burst Pressure	Proof Pressure	Temp.	Cv	Leak Rates	
						Inboard	Across Seat
1/4	1MPa (150 psi)	31MPa (4500 psi)	1.5MPa (225 psi)	-10 to 60°c (PCTFE) -10 to 150°c (PI)	0.1	$3X10^{-12}$ pa•m³/sec Helium	$3X10^{-10}$ pa•m³/sec Helium

STRUCTURE

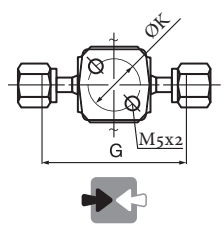
Item No.	Parts	Material
1	Body	Stainless Steel, 316L Var or Vim/Var (1)
2	Seat	PCTFE/PI (Polyimide)
3	Seat Holder	Stainless Steel, 316L Var or Vim/Var (1)
4	Diaphragm	Co-Cr-Ni Alloy
5	Act. Button	304 Stainless Steel
6	Act. Button Holder	Stainless Steel, ASTM 630 H900
7	Actuation Device	Aluminum

(1) Per SEMI F20-0305





Angle Flow Pattern



Two-Way Flow Pattern

2LM SERIES
METERING FLOW

METAL DIAPHRAGM VALVES

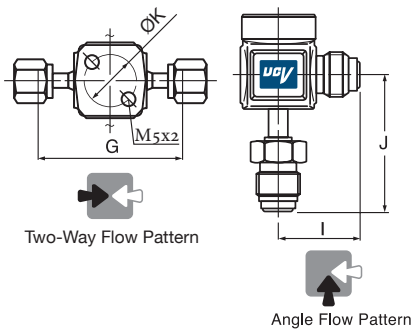
Flow control models from the Ultra-Clean Valve series are made according to UHP specifications. These models come with end connections in the standard 1/4" measurement. Each valve is furnished with a handle-lock set screw with a vernier scale.

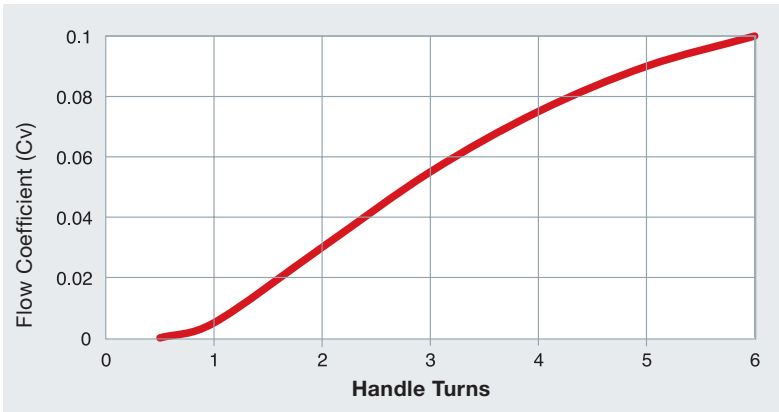
- Broad flow-control range of six and a half handle turns
- Handle-lock set screw on the handle side
- Electropolished surfaces
- Forged body

As these valves are designed to handle flow control tasks, the valve seat is not fully closed even at the position of division 0 on the vernier scale. Do not operate the handle in the direction in which the valve seat is closed past the position of division 0 on the vernier scale.

STANDARD CONFIGURATION DIMENSIONS

Part Number/ep	Size	End Connection	A	B	C	D	E	F	G	I	J	K
	inch		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
2LMS4V-W	1/4	Extended Butt Weld	11	98	23	26	2.5	20	47	-	-	17
2LMS4V-BW	1/4	Short Butt Weld	11	98	23	26	2.5	20	44.4	-	-	17
2LMA4V-BV	1/4	Male HTC	11	98	23	26	2.5	20	-	26	45	17
2LMS4V-FV	1/4	Swivel Female HTC	11	98	23	26	2.5	20	66	-	-	17





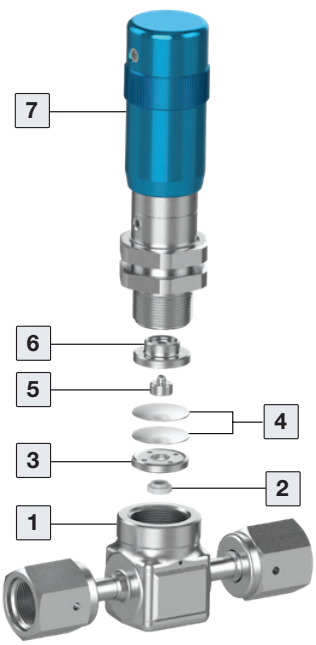
SPECIFICATIONS

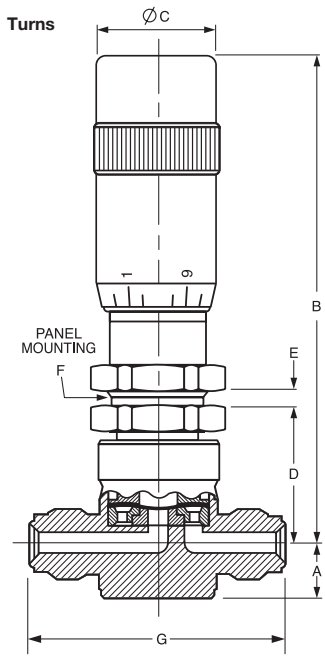
Size	Design Pressure	Burst Pressure	Proof Pressure	Temp.	Cv	Leak Rates	
						Inboard	Across Seat
1/4	1MPa (150 psi)	31MPa (4500 psi)	1.5MPa (225 psi)	-10 to 60°c (PCTFE) -10 to 150°c (PI)	0.1	$3X10^{-12}$ pa•m³/sec Helium	Not a Shutoff Valve

STRUCTURE

Item No.	Parts	Material
1	Body	Stainless Steel, 316L Var or Vim/Var (1)
2	Seat	PCTFE/PI (Polyimide)
3	Seat Holder	Stainless Steel, 316L Var or Vim/Var (1)
4	Diaphragm	Co-Cr-Ni Alloy
5	Act. Button	304 Stainless Steel
6	Act. Button Holder	Stainless Steel, ASTM 630 H900
7	Actuation Device	Aluminum

(1) Per SEMI F20-0305





MDDV SERIES

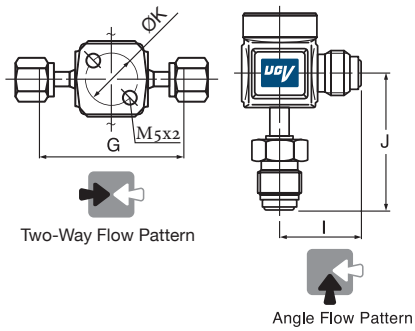
FLOW CONTROL WITH MANUAL SHUT-OFF VALVE

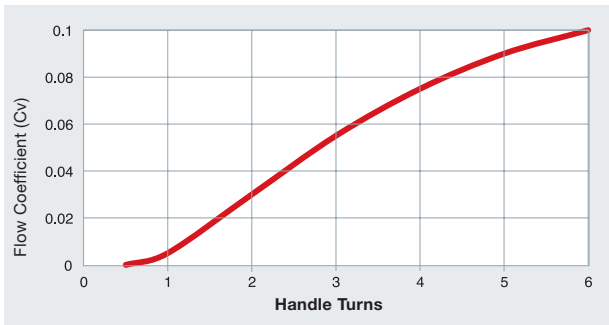
METERING DUAL DIAPHRAGM VALVE

The Shut-Off Flow Control Diaphragm valve series provides high performance with accurate metering flow and reduces potential leak points. The MDDV series features allow accurate flow control and shut-off operation with the same valve which saves space and installation costs. The flow control capacities can supply accurate Cv=0.1 with up to six, handle turns. The MDDV series provides a full response to the high demand for accurate flow control.

STANDARD DIMENSIONS

Part Number/ep	Size	End Connection	A	B	C	D	E	F	G
	inch		mm	mm	mm	mm	mm	mm	mm
MDDVS4V-FV	1/4''	Swivel Female Face-Seal	69.5	99.6	23	59.6	45	70.6	29.4
MDDVS4V-MV	1/4''	Swivel Male Face-Seal	69.5	99.6	23	59.6	45	70.6	29.4





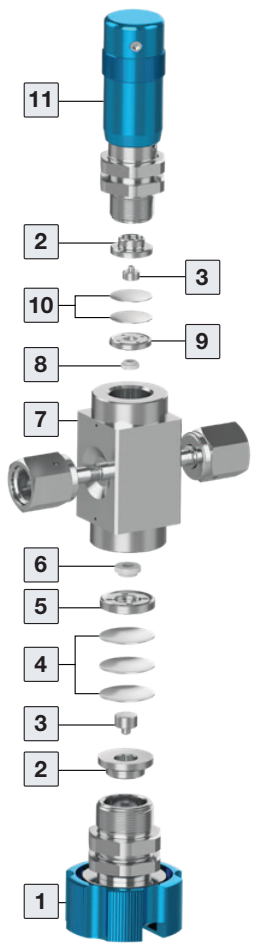
SPECIFICATIONS

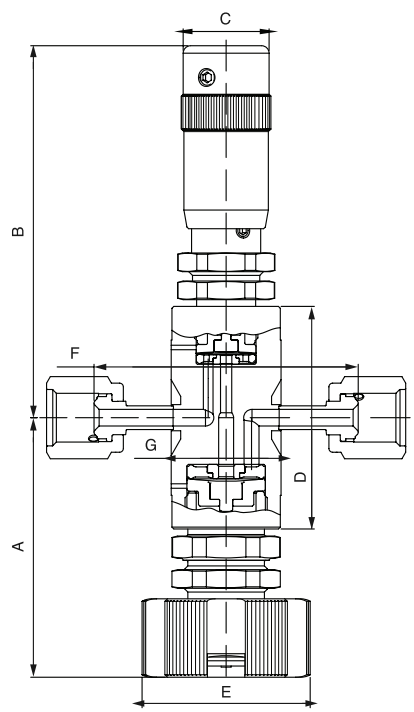
Size	Design Pressure	Burst Pressure	Proof Pressure	Temp.	Cv	Leak Rates	
						Inboard	Across Seat
1/4	1MPa (150 psi)	31MPa (4500 psi)	1.5MPa (225 psi)	-10 to 150°C (Polyimide) -10 to 60°C (PCTFE)	0.1	$3X10^{-11}$	$3X10^{-9}$

STRUCTURE

No.	Parts	Material
1	Flow Control Handle	Aluminum, SST
2	Act. Button Holder	SS 17- 4PH
3	Act. Button	SST 316
4	Diaphragm	Nickel Alloy
5	Seat Holder	Stainless Steel, 316L Var or Vim/Var (1)
6	Seat	PCTFE
7	Body	Stainless Steel, 316L Var or Vim/Var (1)
8	Seat	PCTFE
9	Seat Holder	Stainless Steel, 316L Var or Vim/Var (1)
10	Diaphragm	Nickel Alloy
11	Handle and Stem Assembly	Aluminum, SST

(1) Per SEMI F20-0305





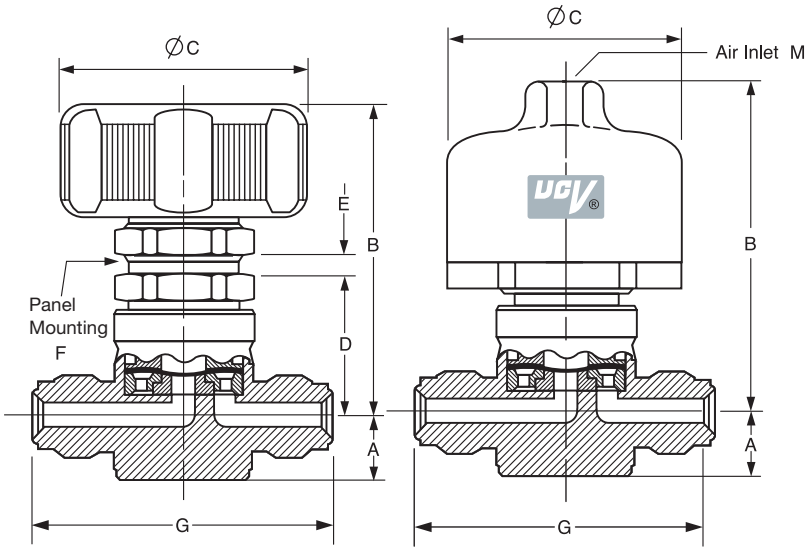
2LD SERIES
STANDARD FLOW
METAL DIAPHRAGM VALVES

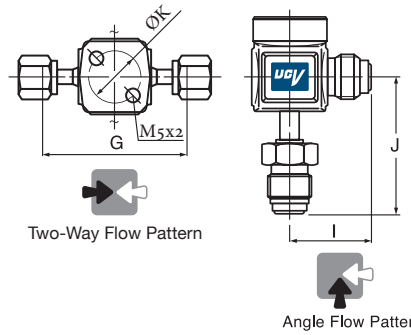
Standard models from the Ultra-Clean Valve series are made according to UHP specifications. This model comes with end connections in three standard sizes: 1/4", 3/8" & 1/2" and fits comfortably into high-flow applications.

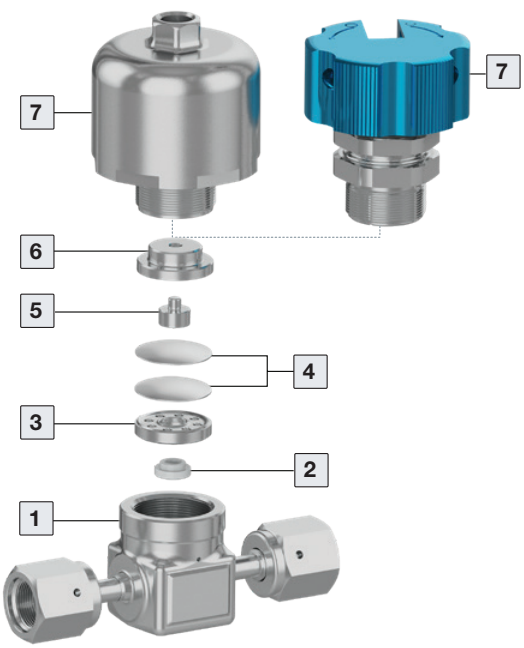
- Unique seat structure offers superb leak performance
- Compact designs for minimum footprint
- Electropolished surfaces
- Forged body

STANDARD DIMENSIONS

Part Number/ep	Size	End Connection	A	B	C	D	E	F	G	H	I	J	K	M
	inch		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	inch
2LDA4R-BV	1/4	Male HTC	11	63	45	29	(4)	23	58.0	25	29	45	25	-
2LDS4C-W	1/4	Extended Butt Weld	11	65	46	-	-	-	89.0	-	-	-	25	1/8"
2LDS4C-BW	1/4	Short Butt Weld	11	65	46	-	-	-	44.4	-	-	-	25	1/8"
2LDS6R-W	3/8	Extended Butt Weld	17.5	67.5	45	32.5	(4)	23	105	38	-	-	28	
2LDS8C-FV	1/2	Female HTC	17.5	73.5	56	-	-	-	100	-	-	-	28	1/8"
2LDS8C-W	1/2	Extended Butt Weld	17.5	73.5	56	-	-	-	105	-	-	-	28	1/8"







SPECIFICATIONS

Size	Design Pressure	Burst Pressure	Proof Pressure	Temp.	Cv	Leak Rates	
						Inboard	Across Seat
1/4	1MPa (150 psi)	31MPa (4500 psi)	1.5MPa (225 psi)	-10 to 60°c (PCTFE) -10 to 150°c (PI)	0.3	$3X10^{-12}$ pa•m³/sec Helium	$3X10^{-10}$ pa•m³/sec Helium
3/8					0.7		
1/2					0.7		

STRUCTURE

Item No.	Parts	Material
1	Body	Stainless Steel, 316L Var or Vim/Var(1)
2	Seat	PCTFE/PI (Polyimide)
3	Seat Holder	Stainless Steel, 316L Var or Vim/Var(1)
4	Diaphragm	Co-Cr-Ni Alloy
5	Act. Button	304 Stainless Steel
6	Act. Button Holder	Stainless Steel, ASTM 630 H900
7	Actuation Device	Aluminum

(1) Per SEMI F20-0305

ORDERING INFORMATION

2LD S 4 C - BV - P

Valve Series	
2LE	Compact
2LM	Flow Control
2LD	Standard
MDDV	Flow Control Shut Off Valve

Valve Type	
S	Two-Port Valve (Straight)
A	Two-Port Valve (Angle)

Body Size	
4	1/4"
6	3/8"*
8	1/2"

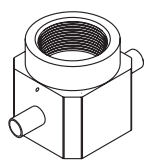
End Connection	
BV	Male Face Seal*
V	Male Face Seal for EV/EVH Series*
MV	Swivel Male Face Seal*
FV	Swivel Female Face Seal*
W	Extended Butt Weld
BW	Short Butt Weld
BI	LET-LOK

* For 1/2", 1/4" end connections only

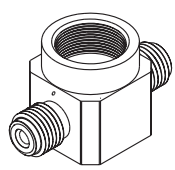
Feature	
P	Polyimide Seat
PFA	PFA Seat
SD	Safe Device
LD	Lock Device
ISLT	LOTO Device

Actuation Device			
C	Air Operated N.C	**Q**	- Oval Handle 1/4 turn
O	Air Operated N.O	**V**	- Vernier Handle*
R	Round Handle		

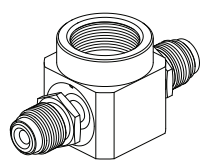
For other colors contact your local UCT representative.
*Vernier handle only for 2LM and MDDV series



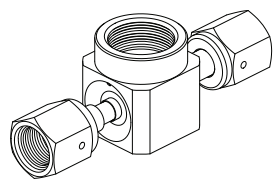
Butt Weld Ends



Male Face-Seal Ends



Swivel Male Face-Seal Ends



Swivel Female Face-Seal Ends

- Standard seat: PCTFE
- For valves that are made of bar stock

For your convenience, port converstion of old HMJ valves to current HM series:
A = 30 | **B** = 35 | **C** = 34 | **D** = 31 | **E** = 32 | **F** = 33

Warning!
The system designer and user have the sole responsibility for selecting products suitable for their special application requirements, ensuring their safe and trouble-free installation, operation, and maintenance. Application details, material compatibility and product ratings should all be considered for each selected product. Improper selection, installation or use of products can cause property damage or personal injury.

HM SERIES

LEGACY SERIES MANUAL VALVES

The manually operated Ultra-Clean Diaphragm Valves are for medium and low-pressure applications. The HM series is designed and manufactured per SEMI F-20 material specifications. The valves include a flexible port design with butt weld and face-seal end connections.

STRUCTURE

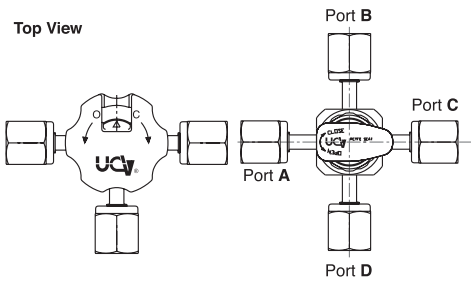
Item No.	Part No.	Material
1*	Body	Stainless Steel, 316L Var or Vim/Var(1)**
2*	Seat	PCTFE, Polyimide**
3*	Seat Holder	Stainless Steel, 316L Var or Vim/Var(1)**
4*	Diaphragm	Co-Cr-Ni Alloy
5	Act. Button	Stainless Steel, AISI 304, Ball AISI 440C
6	Act. Button Holder	Stainless Steel, ASTM 630 H900
7	Handle & Stem Assembly	A6061T6, ASTM 630 H900

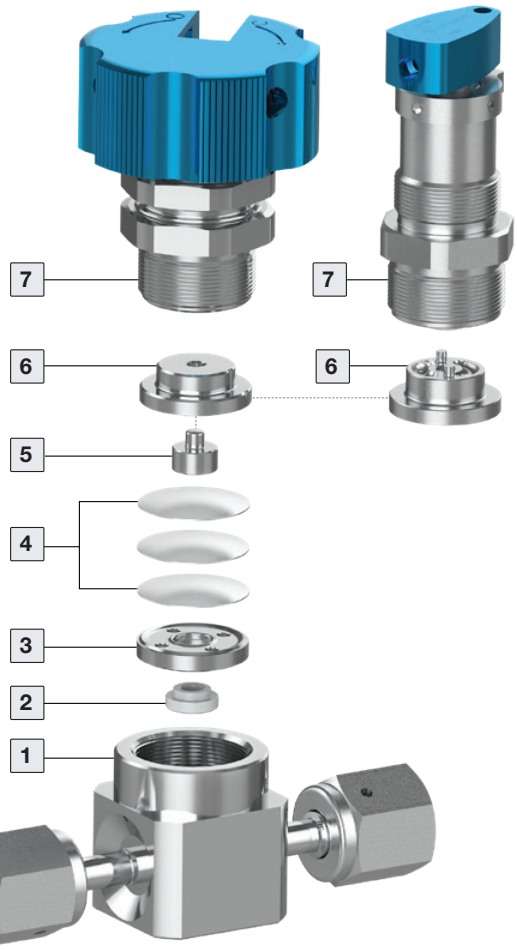
*Wetted parts ** Standard material
(1) Per SEMI F20-0305

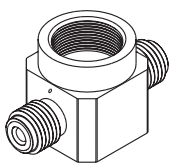
PANEL MOUNTING

Each manual valve has an a standard upper panel mounting and bottom mounting. The upper panel mounting has a stainless steel nut, which requires a minimum width of 0.04" for panel mounting.

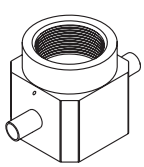
For multi-port valves, select the end connection for each port, starting with port A as shown below.





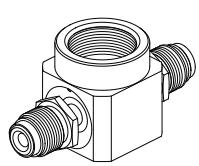


Male Face-Seal Ends



Butt Weld Ends

Swivel Female Face-Seal Ends



Swivel Male Face-Seal Ends

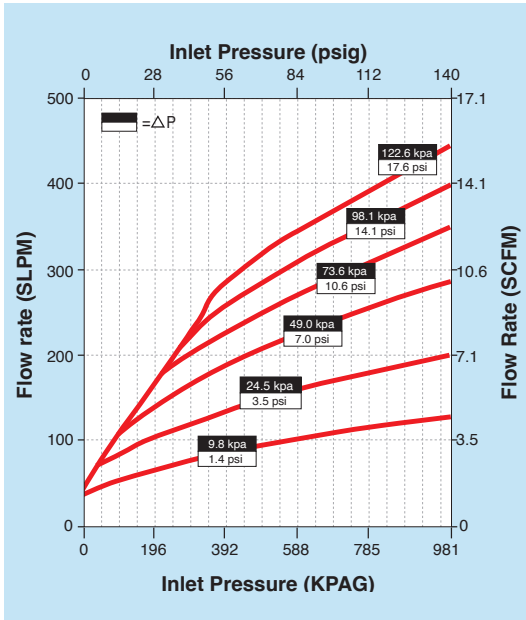
HM SERIES
LEGACY SERIES MANUAL VALVES

UCV SPECIFICATIONS

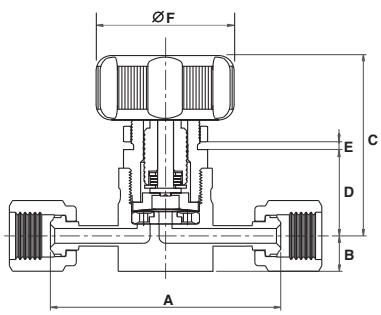
Structure	Direct-seal metal-diaphragm valve without seal packing manually operated	
	1/4"	1/2"
Design Pressure	Vacuum to 300 psi (20 bar)	Vacuum to 150 psi (10 bar)
Burst Pressure	4500 psi (310 bar)	
Proof Pressure	450 psi (31 bar)	
Temperature: Standard	14 to 140°F, -10 to 60°C (PCTFE Seat)	14 to 140°F, -10 to 60°C (PCTFE Seat)
Available	14 to 302°F, -10 to 150°C (*Polyimide Seat)	14 to 302°F, -10 to 150°C (*Polyimide Seat)
Leakage: Inboard Leakage	≤ $3x10^{-11}$ atm cc He/sec	≤ 3x10-11 atm cc He/sec
Across The Seat	≤ $1x10^{-9}$ atm cc He/sec	≤ 1x10-9 atm cc He/sec
Particle	No particle detected above 0.1µm.	No particle detected above 0.1µm
Operated	Round handle 3/4 turn Oval handle 1/4 turn	Round handle 3/4 turn, Pneumatic Normally open(n.o), Normally close(n.c)
Connections	Face seal or tube weld	Face seal or tube weld
CV value-Low Pressure	0.3	0.7
Valve Lift	0.024'', 0.6 mm	0.024'', 0.6 mm
Direction	2 port straight, 2 port L, 3 port, 4 port	2 port straight
Surface Finish Ra (Ave)-Standard	5µin	5µin
Surface Finish Ra (Max)-Standard	10µin	10µin

*Used with fluorocarbon FKM O-ring
LP-Low pressure

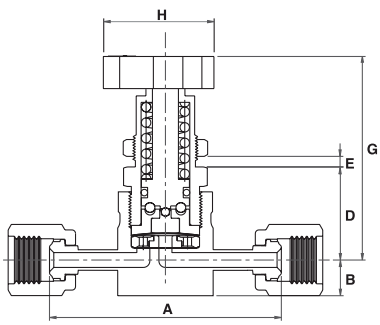
NITROGEN FLOW FOR LOW-PRESSURE VALVE-CV 0.3



Round Handle



Oval Handle



VALVE DIMENSIONS- inch, mm

Size	Connection	A		B		C		D		E*		F		G		H	
		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
1/4	Swivel Female Face-Seal	2.78	70.6	0.44	11.0	2.48	63.0	1.14	29.0	0.04	1.00	1.77	45.0	2.68	68.0	1.34	34.0
1/4	Male Face-Seal	2.30	58.4	0.44	11.0	2.48	63.0	1.14	29.0	0.04	1.00	1.77	45.0	2.68	68.0	1.34	34.0
1/4	Swivel Male Face-Seal	2.78	70.6	0.44	11.0	2.48	63.0	1.14	29.0	0.04	1.00	1.77	45.0	2.68	68.0	1.34	34.0
1/4	Butt Weld	1.75	44.4	0.44	11.0	2.48	63.0	1.14	29.0	0.04	1.00	1.77	45.0	2.68	68.0	1.34	34.0

Dimensions are for reference only and are subject to change.
*Minimum height for panel

HM SERIES

LEGACY SERIES
AIR-OPERATED VALVES

The pneumatically operated Ultra-Clean Diaphragm Valve is for high and low-pressure applications. The HM series is designed and manufactured per SEMI F-20 material specifications, and it offers a flexible port design with butt-weld and face-seal end connections.

UCV SPECIFICATIONS

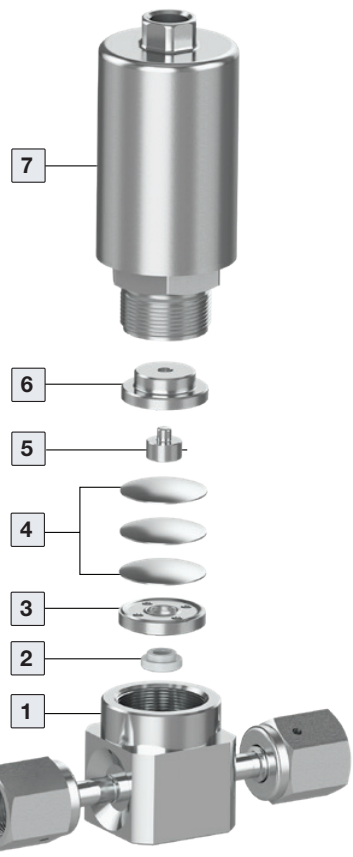
Structure	Direct-Seal Metal-Diaphragm Valve without Seal Packing Pneumatically Operated	
	1/4"	1/2"
Pressure	Vacuum to 300 psi (20 bar)	Vacuum to 150 psi (10 bar)
Burst Pressure	4500 psi (310 bar)	
Proof Pressure	225 psi (15.5 bar)	
Temperature: Standard	14 to 140°F, -10 to 60°C (PCTFE Seat)	14 to 140°F, -10 to 60°C (PCTFE Seat)
Available	14 to 302°F, -10 to 150°C (*Polyimide Seat)	14 to 356°F, -10 to 180°C (*Polyimide Seat) 14 to 302°F, -10 to 150°C (*VESPEL Seat)
Leakage: Inboard Leakage	≤ $3x10^{-11}$ atm cc He/sec	≤ 3x10-11 atm cc He/sec
Across The Seat	≤ $1x10^{-9}$ atm cc He/sec	≤ 1x10-9 atm cc He/sec
Particle	No particle detected above 0.1µm.	No particle detected above 0.1µm
Operated	Pneumatic, NC/NO**	Pneumatic, NC/NO**
Connections	Face seal or tube weld	Face seal or tube weld
CV value - Low Pressure	0.3	0.7
Valve Lift	0.6mm (0.024")	0.6mm (0.024")
Direction	2-port straight, 2-port L, 3-port, 4-port	2-port straight
Surface Finish Ra (Ave)-Standard	5µin	5µin
Surface Finish Ra (Max)-Standard	10µin	10µin
Air Supply	60-90 psig , 4 - 6 bar	60-90 psig , 4 - 6 bar
Air Connection	1/8'' NPT	1/8'' NPT

*Used with fluorocarbon FKM O-ring
**NC-Normally Closed NO-Normally Open
LP-Low pressure

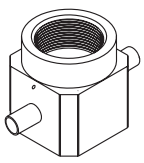
STRUCTURE

Item No.	Part No.	Material
1*	Body	**Stainless Steel, 316L Var or Vim/Var(1)
2*	Seat	**PCTFE, Polyimide
3*	Seat Holder	**Stainless Steel, 316L Var or Vim/Var(1)
4*	Diaphragm	Co-Cr-Ni Alloy
5	Act. Button	Stainless Steel, AISI 304, ball AISI 440C
6	Act. Button Holder	Stainless Steel, ASTM 630 H900
7	Actuator Assembly	A6061T6

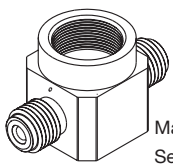
*Wetted parts ** Standard material



Swivel Female Face-Seal Ends

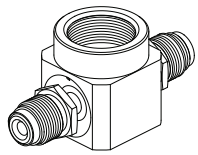


Butt Weld Ends



Male Face-Seal Ends

(1) Per SEMI F20-0305



Swivel Male Face-Seal Ends

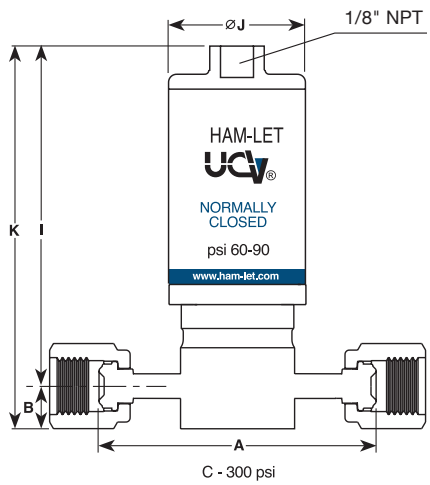
HM SERIES
LEGACY SERIES
AIR OPERATED VALVES

VALVE DIMENSIONS

Size	Connection	A		B		C		D		E*		F	
in		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
1/4	Swivel Female Face-Seal	2.78	70.6	0.44	11.0	1.16	29.4	1.16	29.4	1.00	25.4	1.40	35.3
1/4	Male Face-Seal	2.30	58.4	0.44	11.0	1.16	29.4	1.16	29.4	1.00	25.4	1.15	29.2
1/4	Swivel Male Face-Seal	2.78	70.6	0.44	11.0	1.16	29.4	1.16	29.4	1.00	25.4	1.40	35.3
1/4	Butt Weld	1.75	44.4	0.44	11.0	1.16	29.4	1.16	29.4	1.00	25.4	0.87	22.2

ACTUATOR DIMENSIONS

Actuator type	I		øJ		K		Effective Area	Output Force
	in	mm	in	mm	in	mm	in	
Low Pressure	2.86	72.7	1.33	34	3.29	83.7	1.58 in²	550 psig
High Pressure	3.50	89	1.57	40	3.93	100	1.58 in²	550 psig
AO-Position Switch	-	-	-	-	3.78	96	-	-



C - 300 psi

STANDARD PANEL MOUNTING FOR TWO-PORT STRAIGHT VALVE

- Optional, four threaded holes (two as standard).
- All the other valve types have standard four threaded holes
- According to SEMATECH 96063137-ENG.

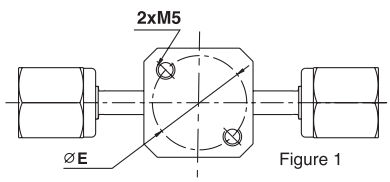
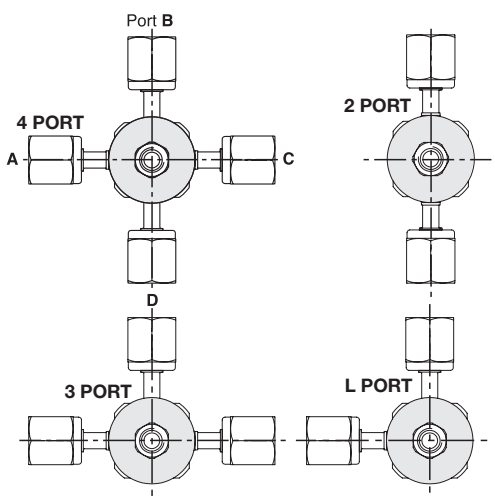
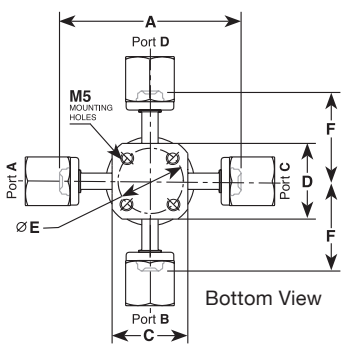


Figure 1

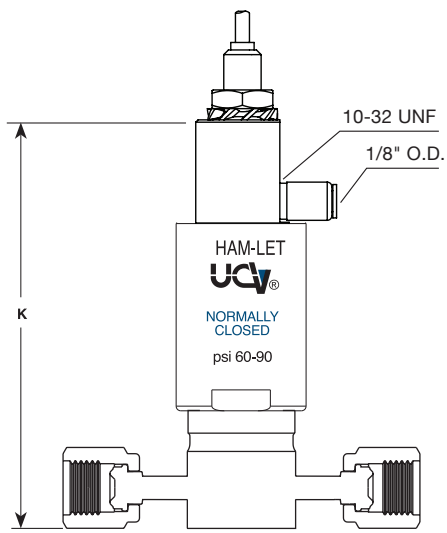
The M5 threaded mounting holes will accept 10-32 screws.

Top View





Bottom View



LC - 150 psi - Position Switch

* The dimensions apply to pneumatic and manual valves. Dimensions are for reference only and are subject to change.

THE UCV HM SERIES SPECIFICATIONS

MATERIAL

UCV Series Valves meet the chemical composition and the mechanical properties of Stainless Steel 316L, according to the ASTM A276 specification. Chemical Composition: The body material of the UCV Series complies with SEMI F20 - the sulfur content is lower or equal to 0.01 percent.

MECHANICAL SIZE-DIMENSIONAL SPECIFICATION

UCV Series Valves meet the end-to-end length and overall envelope and comply with SEMATECH Technology Transfer 96063137-ENG.

PACKAGING

UCT standard for packing the UCV Series Valves is a double bag. The inner bag contains ultra-pure nitrogen.
All end fittings, threads and sealing surfaces are protected with a cap to prevent any damage.

ELECTROPOLISHED SURFACES-SURFACE FINISH

UCV Valves are tested accordance with SEMASPEC 90120401-STD with the number of observed defects below acceptable limits for surface defect totals and averages.

UCV Valves meet the chromium enhancement ratio of chromium-to-iron ratio of 2:1 and chromium oxide-to-iron oxide ratio of 3:1. This test is done in accordance with SEMASPEC 90120403-STD.
UCV Valves meet the oxide layer depth and surface contamination of 20 angstroms after subtraction of the carbon layer. The carbon layer is 10 angstroms.

SURFACE ROUGHNESS

All wetted parts of the UCV Series Valves have an average surface roughness (Ra avg) of 5 micro-inch Ra, and maximum surface roughness (Ra max) of 10 micro-inch Ra, complying with ISO 4288.

HELIUM LEAK TEST

All UCV Series Valves are 100% helium leak tested. Helium-leak tests are performed using a helium-leak detector machine with a sensitivity of $0.1x10^{-12}$ atm cc He/sec. The standard leak rate tests are listed below.
(Lower leak rates are optional upon request)

Maximum Helium (He) leak ratings:

- Inboard leak integrity $3x10^{-11}$ atm cc/sec.
- Complies with SEMI F1.
- Leak across the seat $1x10^{-9}$ atm cc/sec.
- In accordance with SEMASPEC

90120391B-STD (held for at least 15 seconds).

PARTICLES

The particles standard for UCV Series Valves is less than 5 particles/ft^3 for particles 0.1µm and 20 particles 0.02 µm for static and dynamic tests, according to SEMASPEC 90120390-STD.

MOISTURE TESTING

The standard moisture level is 20 ppbv H20 in nitrogen baseline or less, within two hours after 2 ppmv spike for 1 minute at flow rate of 1.5 SLM or less, according to SEMASPEC 90120397-STD.

CLEANING

All CNC machined valve parts are cleaned to ensure that they are free of emulsion composition and residues involved in the machining process.

RELIABILITY

The valves demonstrate a MTTF of more than one million cycles for pneumatic valves and more than 100,000 cycles for manual valves, in accordance with SEMASPEC

ORDERING INFORMATION-HM SERIES

HM 2 1 - 4 V K LR - BW 4 GF 4 - LD

Port A — Port B

Valve Series

HM	UCV Valves

Port Designator

0, 1, 2, 3, 4, 5

Body Material

V	SS316L Var or Vim/Var[1] (Bar Stock) Standard

Actuation Device

LC	Air Operated N.C. 150 psi
C*	Air Operated N.C. 300 psi
LO	Air Operated N.O. 150 psi
O*	Air Operated N.O. 300 psi
LR**	Round Handle 3/4 turn 300 psi*
LQ**	Oval Handle 1/4 turn 300 psi

*For body size 1/4"
**Body size 1/4" up to 300 psi
Handle color can be delivered by request.
NC-Normally close, NO- Normally open.

End Size

4	1/4''
6	3/8''*
8	1/2''
	6 mm*

* BW, LL End connections only

Valve Type

2	2-Port Valve
3	3-Port Valve
4	4-Port Valve

*For limit switch indicator on AOP Valve, contact your local UCT representative

Body Size

4	1/4
8	1/2

Seat Material

K	PCTFE
S*	Polyimide

K Standard, *Available

End Connection

BW	Butt Weld
GF	Swivel female Face-seal*
GM	Swivel male Face-seal*
M	Male Face-seal*
LL	LET-LOK

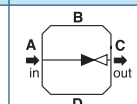
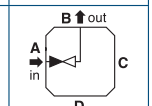
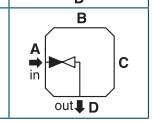
*1/4", 1/2" end connection size only

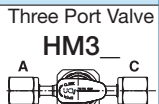
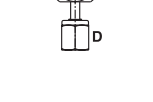
Features

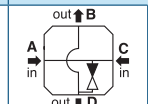
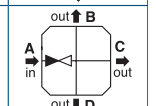
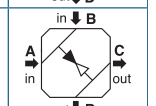
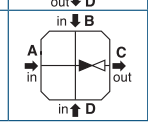
LD	- Locking Device
ISLT	- LOTO Handle
HB*	- Hybrid

*Only for body size 1/4"

PORT DESIGNATOR - (TOP VIEW)

Valve Configuration	Port Designator	Schematic Flow Chart
Two Port Valve HM2_	0	
	1 L-Port	
	2 L-Port	

Valve Configuration	Port Designator	Schematic Flow Chart
Three Port Valve HM3_	0	
	1	
	2	
	3	
	4	
	5	

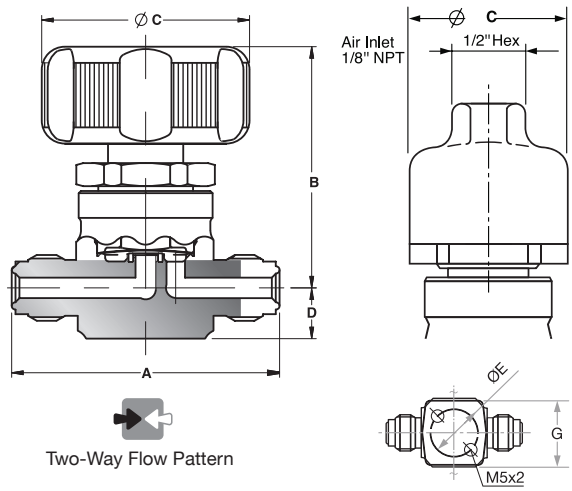
Valve Configuration	Port Designator	Schematic Flow Chart
Four Port Valve HM4_	0	
	1	
	2	
	3	

(1) Per SEMI F20-0305

HMC SERIES
COMPACT IN-LINE
METAL DIAPHRAGM VALVES

- Compact design
- Manual 3/4 turn
- handle and position indicator (open/close), 300 psi
- Safety clip; Locking device for manual round 3/4 turn handle
- Pneumaticlly actuated, normally closed and normally open version, 150 psi
- Electropolished surfaces as standard
- Standard panel mounting

Actuation type	End Connection	A	B	C	D	E	G
		mm	mm	mm	mm	mm	mm
Air Operated NC/NO	Butt Weld 1/4	44.4	56.9	32			
	Male HTC 1/4	58.4					
	Let-Lok 1/4	64.7*					
	Female HTC 1/4	70.6					
	Swivel Male HTC 1/4	70.6					
Round 3/4 Turn Handle	Butt Weld 1/4	44.4	51.4	45	11	25.4	29.4
	Male HTC 1/4	58.4					
	Let-Lok 1/4	64.7*					
	Female HTC 1/4	70.6					
	Swivel Male HTC 1/4	70.6					
Oval Directional 1/4 Turn Handle	Butt Weld 1/4	44.4	68	34			
	Male HTC 1/4	58.4					
	Let-Lok 1/4	64.7*					
	Female HTC 1/4	70.6					
	Swivel Male HTC 1/4	70.6					



Two-Way Flow Pattern

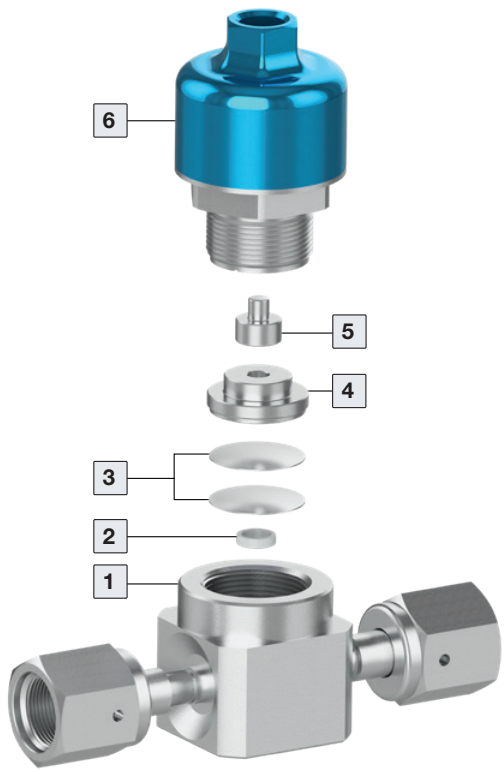
* LET-LOK configuration length including nuts and ferrules hand tightened

SPECIFICATIONS

Size	Design Pressure	Burst Pressure	Proof Pressure	Temp.	Cv	Leak Rates	
						Inboard	Across Seat
1/4	1MPa (150 psi)	31MPa (4500 psi)	1.5MPa (225 psi)	-10~60°C 14~140°F	0.25	≤ 3 X10^{-11} Atm cc/sec Helium	≤ 3 X10^{-9} Atm cc/sec Helium

STRUCTURE

Item No.	Part No.	Material
1	Body	316L Stainless Steel/SS316L Var or Vim/Var(1)
2	Seat	PCTFE
3	Diaphragm	Co-Cr-Ni Alloy
4	Act. Button Holder	Stainless Steel, ASTM 630 H900
5	Act. Button	Stainless Steel, AISI 304, Ball AISI 440C
6	Handle/Act	Aluminum Anodize



ORDERING INFORMATION-HMC SERIES

SPECIFICATIONS

HMC 20	4	L	K	ER	M4
Valve Type	**Body Size**	**Body Material**	**Seat Material**	**Actuation Type**	**End Connection**
20 2-port	**4** - 1/4	**L -** SST 316L	**K** - PCTFE	**ER** - Round 3/4 Turn Handle 300 psi	**M4** - 1/4 Male Face Seal
		A - SS316L Var or Vim/Var(1)		**EO** - Air Operated Normally Open 150 psi	**BW4** - 1/4 Tube Butt-Weld
				EQ - Oval Directional 300 psi	**LL4** - 1/4 Let-Lok
				EC - Air Operated Normally Close 150 psi	**GM4** - 1/4 Swivel Male Face Seal
					GF4 - 1/4 Swivel Female Face Seal

(1) Per SEMI F20-0305

Warning!
The system designer and user have the sole responsibility for selecting products suitable for their special application requirements, ensuring their safe and trouble-free installation, operation, and maintenance. Application details, material compatibility and product ratings should all be considered for each selected product. Improper selection, installation or use of products can cause property damage or personal injury.